

**Safety data sheet**

according to 1907/2006/EC, Article 31

Printing Date: 25.04.2018

Revision no. 3

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Trade name: Roofinox FLM

**1 Identification of the substance/mixture and of the company/undertaking**

- **Product identifier**
- **Trade name: Roofinox FLM**
- **Article number: 15193**
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the preparation** Stainless steel flux
- **Details of the supplier of the safety data sheet**
- **Supplier:**  
Roofinox GmbH  
Industriestrasse 11  
A-6832 Sulz
- **Further information obtainable from:**  
Roofinox  
E mail: office@roofinox.com
- **Emergency telephone number:**  
+ 33 (0) 1 44 73 10 02 ( Carechem 24\*7 )  
For China: + 86 1051003039  
For India: +65 31581198  
For advice on chemical emergencies, spillages, fires or First Aid  
National emergency telephone number :  
Czech Republic: Toxikologické informační středisko (TIS), Klinika nemocí z povolání, Na Bojišti 1, 128 08 Praha 2, Tel - nonstop: + 420 224 919 293, + 420 224 915 402  
France : Orfila 01.45.42.59.59  
Netherlands: National vergiftigingen info centrum: 030-2748888  
Denmark Giftlinien +45 82 12 12 12  
Sverige +46 08-33 12 31  
Norge Giftcentralen +47 22 59 13 00  
Schweizerisches Toxikologisches Informationszentrum Telefon +41 145  
Finland: Myrkytystietokeskus, puh. 09-471977 tai 09-4711/Myrkytystietokeskus  
Vergiftungsinformationszentrale Wien Telefon +43 1 4064343  
Núdzové telefónne číslo: Národné toxikologické informačné centrum, tel: 02/ 5477 4166  
Romania: BIROUL PT REGULAMENTUL SANITAR INTERNATIONAL SI INFORMARE TOXICOLOGICA: +4021 318 36 06

**2 Hazards identification**

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS05 corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

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- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



C; Corrosive

R34: Causes burns.



F; Highly flammable

R11: Highly flammable.

- **Information concerning particular hazards for human and environment:**  
The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
- **Classification system:**  
The classification is in line with current EC lists. It is extended, by information from technical literature and company information.
- **Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**  
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS02 GHS05

- **Signal word** Danger
- **Hazard-determining components of labelling:**  
orthophosphoric acid 75%
- **Hazard statements**  
H225 Highly flammable liquid and vapour.  
H314 Causes severe skin burns and eye damage.
- **Precautionary statements**  
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P310 Immediately call a POISON CENTER or doctor/physician.  
P405 Store locked up.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

**3 Composition/information on ingredients**

- **Chemical characterization: Mixtures**
- **Dangerous components:**

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CAS: 7664-38-2 EINECS: 231-633-2 Index number: 015-011-00-6 RTECS: TB 6300000	orthophosphoric acid 75%  C R34  Skin Corr. 1B, H314	40-60%
CAS: 64-17-5 EINECS: 200-578-6 Index number: 603-002-00-5 RTECS: KQ 6300000	ethanol  F R11  Flam. Liq. 2, H225	40-60%

- **Additional information:** For the wording of the listed risk phrases refer to section 16.

**4 First aid measures**

- **Description of first aid measures**
- **General information:**  
Personal protection for the First Aider.  
Immediately remove any clothing soiled by the product.  
Take affected persons out into the fresh air.
- **After inhalation:**  
Supply fresh air or oxygen; call for doctor.  
Place unconscious person on the side in the recovery position and ensure breathing.
- **After skin contact:**  
Immediately wash with water and soap and rinse thoroughly.  
Chemical burns must be treated by a physician.
- **After eye contact:**  
Rinse opened eye for several minutes under running water.  
Call a doctor immediately.  
Remove contact lenses.
- **After swallowing:**  
Do not induce vomiting; call for medical help immediately.  
Rinse out mouth and then drink plenty of water.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

**5 Firefighting measures**

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:**Water with full jet
- **Special hazards arising from the substance or mixture**  
Can form explosive gas-air mixtures.  
In case of fire, the following can be released:  
Phosphoroxide (P2O5)
- **Advice for firefighters**
- **Protective equipment:**  
Wear self-contained respiratory protective device.  
Wear fully protective suit.
- **Additional information**  
Cool endangered receptacles with water spray.

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Collect contaminated fire fighting water separately. It must not enter the sewage system. Contain escaping vapours with water mist.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Avoid contact with eyes and skin

Don't inhale vapour/aerosols

Keep away from ignition sources.

Use respiratory protective device against the effects of fumes/dust/aerosol.

- **Environmental precautions:**

Do not allow to enter sewers/ surface or ground water.

Do not allow to penetrate the ground/soil.

- **Methods and material for containment and cleaning up:**

Collect with absorbent, non-combustible material into suitable containers.

Use neutralizing agent.

Dispose of the material collected according to regulations.

Ensure adequate ventilation.

- **Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

### 7 Handling and storage

- **Handling:**

- **Precautions for safe handling**

Store in cool, dry place in tightly closed receptacles.

Keep away from heat and direct sunlight.

Prevent formation of aerosols.

Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).

Ensure good ventilation/exhaustion at the workplace.

Avoid contact with eyes and skin.

Avoid breathing vapor/aerosol/mist.

- **Information about fire - and explosion protection:**

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

- **Conditions for safe storage, including any incompatibilities**

- **Storage:**

- **Requirements to be met by storerooms and receptacles:**

Store in a cool location.

Store only in the original receptacle.

- **Information about storage in one common storage facility:**

Store away from incompatible substances (refer to section 10).

- **Further information about storage conditions:** Store receptacle in a well ventilated area.

- **Storage class:** 3A

- **Specific end use(s)** No further relevant information available.

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**8 Exposure controls/personal protection**

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**

Ingredients with limit values that require monitoring at the workplace.	
<b>7664-38-2 orthophosphoric acid 75%</b>	
WEL	Short-term value: 2 mg/m <sup>3</sup> Long-term value: 1 mg/m <sup>3</sup>
<b>64-17-5 ethanol</b>	
WEL	Long-term value: 1920 mg/m <sup>3</sup> , 1000 ppm

- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
The usual precautionary measures are to be adhered to when handling chemicals.  
Keep away from foodstuffs, beverages and feed.  
Do not eat or drink while working.  
Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes and skin.  
Do not inhale gases / fumes / aerosols.  
Provide eyewash station.
- **Respiratory protection:**  
Use suitable respiratory protective device in case of insufficient ventilation.  
NIOSH or European Standard EN 149 approved respirator
- **Protection of hands:**



Protective gloves.

DIN/EN 374

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**



Tightly sealed goggles

(EN 166)

- **Body protection: Protective work clothing**

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**9 Physical and chemical properties**

· <b>Information on basic physical and chemical properties</b>	·
· <b>General Information</b>	·
· <b>Appearance:</b>	·
<b>Form:</b>	Fluid
<b>Colour:</b>	Colourless
· <b>Odour:</b>	Product specific
· <b>Odour threshold:</b>	Not determined.
· <b>pH-value:</b>	Not determined.
· <b>Change in condition</b>	
<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	Undetermined.
· <b>Flash point:</b>	12 °C
· <b>Flammability (solid, gaseous):</b>	Not applicable.
· <b>Ignition temperature:</b>	
<b>Decomposition temperature:</b>	Undetermined.
· <b>Self-igniting:</b>	Product is not selfigniting.
· <b>Danger of explosion:</b>	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· <b>Explosion limits:</b>	
<b>Lower:</b>	3,5 Vol %
<b>Upper:</b>	15.0 Vol %
· <b>Vapour pressure at 20 °C:</b>	59 hPa
· <b>Density:</b>	Not determined.
· <b>Relative density</b>	Not determined.
· <b>Vapour density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with water:</b>	Fully miscible.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
· <b>Other information</b>	No further relevant information available.

**10 Stability and reactivity**

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used and stored according to specifications.  
To avoid thermal decomposition do not overheat.

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- **Possibility of hazardous reactions** Reacts with metals forming hydrogen.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:**  
alkali metals,alkaline earth metals,strong oxidizing agents,alkalis,metal oxides,metals,metal alloy
- **Hazardous decomposition products:**  
Fire or high temperatures create:  
Phosphoroxide (P2O5)

**11 Toxicological information**

- **Information on toxicological effects**
- **Acute toxicity:**

LD/LC50 values relevant for classification:		
<b>64-17-5 ethanol</b>		
Oral	LD50	7060 mg/kg (rat)
Inhalative	LC50/4h	2000 mg/l (rat)
<b>7664-38-2 orthophosphoric acid 75%</b>		
Oral	LD50	1530 mg/kg (rat)
Dermal	LD50	2740 mg/kg (rabbit)

- **Primary irritant effect:**
- **on the skin:** Caustic effect on skin and mucous membranes.
- **on the eye:**  
Strong caustic effect.  
Risk of serious damage to eye.
- **ingestion:**  
Could cause chemical burns in mouth, oesophagus and stomach.  
Danger of very serious irreversible effects if swallowed.
- **inhalation:** Corrosive.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:  
Corrosive  
Swallowing will lead to a strong caustic effect onmouth and throat and to the danger of perforation of esophagus and stomach.

**12 Ecological information**

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Water hazard class 1 (German Regulation): slightly hazardous for water  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.  
Must not reach sewage water or drainage ditch undiluted or unneutralized.

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- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

**13 Disposal considerations**

- **Waste treatment methods**
- **Recommendation**  
Must not be disposed together with household garbage. Do not allow product to reach sewage system.  
Must be specially treated adhering to official regulations.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

**14 Transport information**

• <b>UN-Number</b>	UN2924
• <b>ADR, IMDG, IATA</b>	UN2924
• <b>UN proper shipping name</b>	2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S.
• <b>ADR</b>	(ETHANOL (ETHYL ALCOHOL), PHOSPHORIC ACID, SOLUTION)
• <b>IMDG</b>	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (ETHANOL (ETHYL ALCOHOL), PHOSPHORIC ACID, SOLUTION)
• <b>IATA</b>	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (ETHANOL, PHOSPHORICACID, SOLUTION)
• <b>Transport hazard class(es)</b>	
• <b>ADR, IMDG, IATA</b>	
	
• <b>Class</b>	3 Flammable liquids.
• <b>Label</b>	3+8
• <b>Packing group</b>	
• <b>ADR, IMDG, IATA</b>	II
• <b>Special precautions for user</b>	Warning: Flammable liquids.
• <b>Danger code (Kemler):</b>	338
• <b>EMS Number:</b>	F-E,S-C
• <b>Segregation groups</b>	Acids
• <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.



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• <b>Transport/Additional information:</b>	
• <b>ADR</b>	
• <b>Tunnel restriction code</b>	D/E
• <b>UN "Model Regulation":</b>	UN2924, FLAMMABLE LIQUID, CORROSIVE, N.O.S. (ETHANOL (ETHYL ALCOHOL), PHOSPHORIC ACID, SOLUTION), 3 (8), II

**15 Regulatory information**

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Labelling according to Regulation (EC) No 1272/2008**
- **Hazard statements** Please refer section 2.
- **National regulations:**
- **Information about limitation of use:**  
Employment restrictions concerning juveniles must be observed.
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

**16 Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**  
H225 Highly flammable liquid and vapour.  
H314 Causes severe skin burns and eye damage.  
  
R11 Highly flammable.  
R34 Causes burns.
- **Department issuing SDS:** Q&SHE
- **Contact:** sds@azelis.com
- **Abbreviations and acronyms:**  
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)  
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)  
ICAO: International Civil Aviation Organization  
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)  
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
IMDG: International Maritime Code for Dangerous Goods  
IATA: International Air Transport Association  
GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent
- **\* Data compared to the previous version altered.**